

THE CLAIMS

1 1-12. (cancelled)

1 13. (previously presented) A zirconium-based alloy suitable for use in a corrosive
2 environment where it is subjected to increased radiation, the alloy having a quality and impurity
3 level, including up to 1600 O ppm and up to 120 ppm Si, suitable for use in nuclear reactors, the
4 alloy consisting essentially of:

5 0.65-1.6 percent by weight Nb;

6 0.3-0.6 percent by weight Fe;

7 0.65-0.85 percent by weight Sn;

8 0.0-0.20 percent by weight Ni;

9 0.0-0.60 percent by weight Cr; and

10 the balance being Zr.

1 14. (previously presented) The zirconium-based alloy according to claim 13, containing up
2 to 0.2 percent by weight Ni.

1 15. (previously presented) The zirconium-based alloy according to claim 13, containing up
2 to 0.6 percent by weight Cr.

1 16. (cancelled)

1 17. (previously presented) The zirconium-based alloy according to claim 13, wherein the
2 alloy comprises a part of a component in a nuclear energy plant.

1 18. (previously presented) The zirconium-based alloy according to claim 17, wherein the
2 component comprises a part of a fuel assembly.

- 1 19. (previously presented) A component in a nuclear energy plant, comprising:
2 a zirconium-based alloy according to claim 13.
- 1 20. (previously presented) The component according to claim 19, wherein the component
2 comprises a part of a fuel assembly.
- 1 21. (previously presented) The component according to claim 20, wherein the component
2 comprises a cladding tube for nuclear fuel.
- 1 22. (previously presented) The component according to claim 21, wherein at least a part of
2 an inner circumference of the component comprises a layer of a material that is more ductile than
3 the alloy.
- 1 23. (previously presented) The component according to claim 22, wherein the layer
2 comprises a zirconium-based alloy having a total content of alloying elements that does not
3 exceed 0.5 percent by weight.
- 1 24. (previously presented) The component according to claim 19, wherein the component
2 comprises a cladding tube for nuclear fuel.
- 1 25. (previously presented) The component according to claim 24, wherein at least a part of
2 an inner circumference of the component comprises a layer of a material that is more ductile than
3 the alloy.
- 1 26. (previously presented) The component according to claim 25, wherein the layer
2 comprises a zirconium-based alloy having a total content of alloying elements that does not
3 exceed 0.5 percent by weight.

1 27. (previously presented) A component for a nuclear energy plant, consisting essentially of
2 a zirconium-based alloy according to claim 13.

1 28. (previously presented) The component according to claim 27, containing up to 0.2
2 percent by weight Ni; and/or containing up to 0.6 percent by weight Cr.

1 29. (previously presented) The zirconium-based alloy according to claim 13, including 50-
2 120 ppm Si.

1 30. (previously presented) The zirconium-based alloy according to claim 13, including 500-
2 1600 ppm O.

1 31. (previously presented) The zirconium-based alloy according to claim 13, wherein the
2 amount of O is only at a level that is the normal impurity level that results from the production of
3 the alloy.

1 32. (previously presented) The zirconium-based alloy according to claim 13, wherein the
2 amount of Si is only at a level that is the normal impurity level that results from the production
3 of the alloy.

1 33. (previously presented) The zirconium-based alloy according to claim 13, wherein the
2 alloy includes no Cr except for possibly a very small amount at the impurity level.

1 34. (currently amended) The zirconium-based alloy according to claim 13, wherein the alloy
2 includes no Ni except for possibly a very small amount at the impurity level.